

Report on the Ukrainian Energy Efficiency Financing Program¹ July - September 2001

HIGHLIGHTS

- Kostopil Glass Plant is investing \$284,000 to upgrade its compressed air system.
- JSC Kramatorsk Cement and Asbestos Sheeting Combine plans to save over \$500,000 annually by improving energy efficiency in its operations. ARENA-ECO completed the energy audit for this company. Discussions are underway on financing.
- Donetsk Metallurgical Plant agreed to participate in the industrial energy efficiency program.
- VNII Compressormash used the business plan developed during the training program to obtain a \$227,000 loan from the State Innovation Fund.
- TDA awarded a grant for a complete feasibility study of the Kharkiv District Heating Project.

ACTIVITY DETAILS {tc "ACTIVITY DETAILS " \ 3}

Industrial Energy Efficiency Project

Kramatorsk Cement and Asbestos Sheeting Combine – Pushka: ARENA-ECO prepared an energy audit report for this company. The report recommends several measures, including new burners in the plant's clinker kilns, improvements to the heat supply system, more efficient motors, upgrades to the compressed air system, and improvements in reactive power compensation. These measures will save 12% of gas consumption and over 10% of electricity consumption, resulting in annual savings of over \$500,000. The measures will involve an investment of just over \$2 million. The plant has expressed its intent to implement these measures. IRE is helping the company structure an investment package of up to \$1 million from UkrEsco to implement many of these measures, and the company has expressed its willingness to use internal financing to supplement this amount. The company is also in discussions with other financial institutions about obtaining a loan.

Donetsk Metallurgical Plant (DMZ): In September, ARENA-ECO and IRE met with managers of Donetsk Metallurgical Plant in Donetsk. Based on these discussions and the plant's commitment to implement an aggressive energy efficiency program, the team decided to include this company in the industrial energy efficiency program. The team members and DMZ have signed a memorandum of understanding, laying the groundwork for the full energy audit and financial review. Direct energy efficiency investments at DMZ would range between \$6-8 million as part of a \$20 million modernization program. Austria's Raiffeisen Bank and a private Ukrainian bank have stated their intention to jointly finance the \$20 million program.

¹ The Pacific Northwest National Laboratory (PNNL) manages this program for the U.S. Department of Energy and the Agency for International Development. PNNL provides support for local capacity building by utilizing, to the extent possible, the assistance of ARENA-ECO, the Ukrainian Agency for Rational Energy Use and Ecology.

Sevastopol Marine Plant: The company is actively working on implementing the energy audit recommendations for the Karabel and Sudoremont subsidiaries. The Sigma Group, a U.S. investment fund that owns shares in Sevastopol Marine Plant is providing financing for these measures.

Kostopil Glass Plant: The Kostopil Glass Plant is currently installing new, more efficient compressed air system. This upgrade involves an investment of \$284,000 and will save the company \$70,000 annually.

Kremenchuk Milk Processing Plant: In August, IRE completed its financial appraisal of this milk plant. Through subsequent meetings with the majority owners and UkrESCO, a Letter of Intent has been signed between the parties for investment of up to \$2 million to implement energy efficiency measures in several stages. UkrEsco engineers are working with plant engineers to finalize plans for a combined heat and power project. IRE has continued working with owners and Ukresco concerning the structure of debt including terms and debt restructuring at the plant to accommodate the UkrEsco investment and to determine the best option for providing collateral for the UkrEsco loan. Discussions are also underway regarding collateral and guarantees.

BUSINESS PLAN TRAINING FOR ENERGY EFFICIENCY

ARENA-ECO staff met with representatives of the Nizhyn Meat Processing Plant (Chernigiv Region). The meeting allowed the two sides to improve Nizhyn's business plan, "Optimization of the Refrigerating Unit Operation Through Implementation of Energy Saving Measures." Specific improvements to the project plan as a result of ARENA-ECO's assistance include using wintertime natural cooling of the refrigeration chamber and replacing two 100 kW refrigerant compressors with 75 kW and 55 kW units, which would improve energy efficiency by 35%. Annual cost savings are estimated at \$21,000.

Similar discussions were held with staff from VNII Compressormash in Sumy. Its business plan proposes producing more efficient air compressors for coal and iron-ore mines. It was suggested that this business plan be revised to include energy efficiency improvements in the new air compressors. VNII Compressormash used the business plan developed during the training program to obtain a \$227,000 loan from the State Innovation Fund. The company used these funds, and internal financing, to establish a pilot project to produce a new kind of energy efficient compressor. According to the business plan, the company is also seeking additional financing. During the fourth quarter of 2001, IRE will complete a financial appraisal of the company to help it obtain additional debt financing.

Kharkiv District Heating Project

The U.S. Trade and Development Agency (TDA) awarded a grant for the complete feasibility study of this project to a consortium made up of Parsons Energy & Chemicals

Group and ARENA-ECO. The consortium then signed a related agreement with the Kharkiv Oblast State Administration to ensure that the study meets the regional administration's needs. The World Bank is planning to finance the project when the study is completed. PNNL and ARENA-ECO prepared the original pre-feasibility study for this project, which has allowed the regional administration, the World Bank, and TDA to go forward with this effort.

Ukrainian Federal Energy Management Program (FEMP)

Earlier this year, the Ukrainian government allocated 25 million hryvny (\$4.5 million) to implement specific energy efficiency measures at state-owned facilities. The government launched this program after learning about the success of the U.S. Federal Energy Management Program (FEMP). The State Committee for Energy Conservation awarded contracts for project implementation based on a competitive tender. This quarter, the winning companies began work on implementing the energy efficiency projects.

Kyiv Public Buildings Energy Efficiency Project (Formerly KIBA)

The Kyiv City Administration and Project Implementation Unit continued their activities to implement the project. This quarter, energy audits and design work for heat substation retrofits were prepared for 200 buildings.